

What is claimed is:

1. A display device comprising a pixel array in which a plurality of pixel rows each of which includes a plurality of pixels arranged in parallel along the first direction are arranged in parallel along the second direction which intersects the first direction, a scanning driver circuit which selects the plurality of respective pixel rows in response to a scanning signal, a data driver circuit which supplies a display signal to the respective pixels included in at least one row selected in response to the scanning signal out of the plurality of pixel rows, and a display control circuit which controls a display operation of the pixel array, wherein

lines of video data are inputted to the data driver circuit one after another for every horizontal scanning period of the video data,

the data driver circuit alternately repeats (i) a first step for generating a display signal corresponding to each one of the lines of the video data one after another for every fixed period and outputting the display signal to the pixel array N-times (N being a natural number equal to or greater than 2) and (ii) a second step for generating a display signal which makes the luminance of the pixels lower than the luminance of the pixel in the first step for the fixed period and outputting the display signal to the pixel array M-times (M being a natural number smaller than N),

the scanning driver circuit alternately repeats (i) a first selection step for selecting the plurality of pixel rows for every Y rows (Y being a natural number smaller than the N/M) sequentially from one end to another end of the pixel array along the second direction in the first step and (ii) a second selection step for selecting the plurality of pixel rows other than the pixel rows ($Y \times N$) selected in the first selection step for every Z rows (Z being a natural number not smaller than N/M) sequentially from one end to another end of the pixel array along the second direction in the second step, and

the display device further includes a means which sets a ratio of display in the second step per one frame period, and a means which measures the number of pulses of a horizontal synchronizing signal in one frame period contained in the video data, and determines a point of time for starting display in the second step in response to pulses of the horizontal synchronizing signal corresponding to the ratio based on a measured value of the number of pulses.

2. A display device comprising a pixel array in which a plurality of pixel rows each of which includes a plurality of pixels arranged in parallel along the first direction are arranged in parallel along the second direction which intersects the first direction, a scanning driver circuit which selects the plurality of respective pixel rows in response to a scanning signal, a data driver circuit which supplies a

display signal to the respective pixels included in at least one row selected in response to the scanning signal out of the plurality of pixel rows, and a display control circuit which controls a display operation of the pixel array, wherein

lines of video data are inputted to the data driver circuit one after another for every horizontal scanning period of the video data,

the data driver circuit alternately repeats (i) a first step for generating a display signal corresponding to each one of the lines of the video data one after another for every fixed period and outputting the display signal to the pixel array N-times (N being a natural number equal to or greater than 2) and (ii) a second step for generating a display signal which makes the luminance of the pixels lower than the luminance of the pixel in the first step for the fixed period and outputting the display signal to the pixel array M-times (M being a natural number smaller than N),

the scanning driver circuit alternately repeats (i) a first selection step for selecting the plurality of pixel rows for every Y rows (Y being a natural number smaller than the N/M) sequentially from one end to another end of the pixel array along the second direction in the first step and (ii) a second selection step for selecting the plurality of pixel rows other than the pixel rows (Y×N) selected in the first selection step for every Z rows (Z being a natural number not smaller than

N/M) sequentially from one end to another end of the pixel array along the second direction in the second step, and

the display device further includes a means which sets a ratio of display in the first step per one frame period, and a means which measures the number of pulses of a horizontal synchronizing signal in one frame period contained in the video data, and determines a point of time for starting display in the second step in response to pulses of the horizontal synchronizing signal corresponding to the ratio based on a measured value of the number of pulses.

3. A display device according to claim 2, wherein the number of rows: Y of the pixel rows which are selected in the first selection step in response to a single output of the display signal in the first step is 1, the number of outputs: N of the display signal in the first step is 4 or more, the number of rows: Z of the pixel rows which are selected in the second selection step in response to a single output of the display signal in the second step is 4 or more, and the number of outputs: M of the display signal in the second step is 1.

4. A display device comprising a pixel array which has a plurality of pixels arranged in row direction and the column direction, a scanning driver circuit and a data driver circuit which are connected to the pixel array, and a display control circuit which is connected to the scanning driver circuit and the data driver circuit, and is configured such that the pixel

array is divided by an imaginary line which extends along the first direction as a boundary and respective divided arrays are independently operated in response to the scanning drive circuit and the data driver circuit, wherein

lines of video data are inputted to the data driver circuit one after another for every horizontal scanning period of the video data,

the data driver circuit alternately repeats (i) a first step for generating a display signal corresponding to each one of the lines of the video data one after another for every fixed period and outputting the display signal to one pixel array out of the pixel arrays at least a single time and (ii) a second step for generating a display signal which makes the luminance of the pixels lower than the luminance of the pixel in the first step for the fixed period and outputting the display signal to another pixel array out of the pixel arrays at least a single time,

the scanning driver circuit alternately repeats (i) a first selection step for selecting the plurality of pixel rows for at least every 1 line sequentially from one end to another end of one pixel array along the second direction in the first step and (ii) a second selection step for selecting the plurality of pixel rows for at least every 1 line sequentially from one end to another end of another pixel array along the second direction in the second step, and

the display device further includes a means which sets a ratio of display in the second step per one frame period, and a means which measures the number of pulses of a horizontal synchronizing signal in one frame period contained in the video data, and determines a point of time for starting display in the second step in response to pulses of the horizontal synchronizing signal corresponding to the ratio based on a measured value of the number of pulses.

5. A display device according to claim 4, wherein a means which measures the number of pulses of horizontal synchronizing signals for one frame period contained in the video data and determines a point of time for starting display in the second step in response to pulses of the horizontal synchronizing signals corresponding to the ratio based on the measured value is incorporated into the display control circuit.

6. A display device comprising a pixel array which has a plurality of pixels arranged in the row direction and the column direction, a scanning driver circuit and a data driver circuit which are connected to the pixel array, and a display control circuit which is connected to the scanning driver circuit and the data driver circuit, wherein

the data driver circuit alternately repeats (i) a first step for outputting a display signal to the pixel array N-times (N being a natural number equal to or greater than 2) and (ii) a second step for outputting a display signal which

corresponds to luminance equal to or less than luminance corresponding to the display signal M-times (M being a natural number smaller than N),

the scanning driver circuit alternately repeats (i) a first selection step for selecting every Y rows of the pixel array in the first step and (ii) a second selection step for selecting the Z rows other than the rows selected in the first selection step in the second step, and

the display device further includes a means which measures the number of pulses of a horizontal synchronizing signal in one frame period contained in the video data inputted to the display control circuit, and determines a point of time for starting display in the second step based on a measured value of the number of pulses.

7. A display device according to claim 6, wherein the display device includes a circuit for setting a ratio of operation between the first step and the second step per one frame period.

8. A display device according to claim 6, wherein the display device includes a circuit for setting a ratio of display of the first step per one frame period.